REMARKS

Claims 1 and 3-12 were presented, examined and stand rejected. In this Response, Claims 1 and 8 are amended. Claim 2 was previously cancelled. Claims 1 and 3-12 remain in the application. Reconsideration is requested in view of the foregoing amendments and the following remarks.

Rejections of the Claims under 35 U.S.C. § 102

Claims 1 and 3-12 stand rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 7,006,514 issued to Oki, et al. ("Oki").

Applicants amend independent Claims 1 and 8 to include the elements of:

> wherein each VOQ having one awaiting cell sends, in the time slots before the VOQ is emptied, request signals for outputting the awaiting cell to all of the sub-scheduling means that begin the contention process in the time slots before the VOQ is emptied, and ignores the grant signals from the sub-scheduling means when the VOQ is emptied.

Support for the amendments can be found, for example, at page 14, lines 6-16 and page 15, lines 9-18 of the specification. The amendments emphasize the distinction between the claimed invention and Oki with respect to a scenario where a VOQ has one awaiting cell.

Oki discloses the use of a request counter associated with VOQ(i, j) to keep track of the awaiting cells in each of the VOQs. The VOQ sends a request signal to a sub-scheduler if the value of the request counter C(i, j) is greater than zero (col. 5, lines 39-50). The method of Oki determines whether a VOQ has a cell awaiting arbitration by checking the value of the associated request counter value C(i, j) (col. 7, lines 11-15 and Figure 4B). After the sub-scheduler is informed of the existence of the awaiting cell in the VOQ, the associated request counter value is decremented by one (Figure 4B, block 474). That is, if VOQ(i, j) only has one cell at the beginning of a time slot (block 450), its associated C(i, j) will become zero at the end of the time slot (block 480), even though the cell in the VOQ has not been actually dispatched to an output port. Thus, C(i, j) can be zero when VOQ(i, j) is not actually emptied. As the method of Oki relies on the request counter value to determine whether a VOQ can send a request signal instead of the actual contents of the VOQ, VOQ(i, j) will not have an opportunity to send a request signal to another sub-scheduler in the next time slot when the cell is still in VOQ(i, j).

Thus, Oki does not disclose the recited limitations of sending request signals to all of the sub-scheduling means that begin the contention process in the time slot before the VOQ is emptied.

Further, Oki discloses that the request counter is incremented upon arrival of the cells at their VOQs and decremented upon assignment to the sub-schedulers (col. 8, lines 40-43). Assignment of a cell to a sub-scheduler is not the same as the actual removal of a cell from a VOQ. The request counter value, as disclosed by Oki, merely indicates that a cell in a VOQ has been assigned to a sub-scheduler for contention resolution, and does not indicate whether the cell has actually left the VOQ.

The method of Oki is further demonstrated by the example shown in Figures 7A – 7C. At time slot t = 1, a new cell arrives in VOQ(0,0). The associated request counter value C(0,0) is set to 1. At time slot t = 2, VOQ(0,0) sends a request to a sub-scheduler 2 and C(0,0) is decremented to 0. The sub-scheduler 2 finishes a contention process at the end of t = 4 (col. 9, lines 6-7). Thus, the cell leaves VOQ(0,0) and VOQ(0,0) becomes empty after t = 4. According to Oki, VOQ(0, 0) does not send additional request signals to other sub-schedulers at t = 3 and 4, before VOQ(0, 0) becomes empty. Rather, the VOQ of Oki only gets one time slot to send one request signal to one sub-scheduler. Thus, the VOQ of Oki does not send request signals to all of the sub-schedulers that begin the contention process in the time slots before the VOQ is emptied, as recited in amended Claims 1 and 8.

Further, Oki does not disclose a VOQ that ignores grant signals from sub-schedulers when the VOQ is emptied. According to the method of Oki, an empty VOQ will not receive any grant signal from any sub-scheduler. This is because the VOQ of Oki sends only one request signal for each cell in the VOQ, and receives only one grant signal for the same cell. The VOQ of Oki does not send multiple request signals to multiple sub-schedulers for one awaiting cell.

The specification of the present invention discloses many advantages of the claimed invention over the pipeline maximal-sized matching (PMM) method disclosed by Oki. Some of the advantages over the PMM method are described at page 6, line 17 to page 7, line 4 and page 17, line 25 to page 18, line 19. In particular, it is described that the PMM method provides only one competing chance during a predetermined time slot because a request is sent to only one sub-scheduler (page 17, lines 25-27). By contrast, the claimed invention provides multiple

competing chances in every time slot before the queue is actually emptied. The claimed invention can successfully send requests to multiple sub-schedulers to overcome the limitations of the PMM method.

For at least the foregoing reasons, Oki does not teach each of the elements of Claims 1 and 8, as well as their respective dependent claims, namely, Claims 3-7 and 9-12. Accordingly, withdrawal of the rejection of Claims 1 and 3-12 is requested.

CONCLUSION

In view of the foregoing, it is believed that all claims are now in condition for allowance and such action is earnestly solicited at the earliest possible date. If there are any additional fees due in connection with the filing of this response, please charge those fees to our Deposit Account No. 02-2666.

Respectfully submitted,

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Dated: June 17, 2009

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I hereby certify that this correspondence is being submitted electronically via EFS Web on the date shown below.

Marilyn Bass June 18, 2009